

Applicants : Scott B. Kesler et al.  
Appln. No. : 10/779,906  
Page : 2

### **REMARKS**

In the present Office Action, claims 1, 2, 4, 8, 9, 11, 15, 16 and 20 were rejected under 35 U.S.C. §102(e) as being anticipated by U.S. Patent Application Publication No. 2004/0011342 (hereinafter Fukatsu); claims 7 and 14 were rejected under 35 U.S.C. §103(a) as being unpatentable over Fukatsu in view of U.S. Patent No. 6,628,040 (hereinafter Pelrine); claims 6 and 13 were rejected under 35 U.S.C. §103(a) as being unpatentable over Fukatsu in view of U.S. Patent No. 6,777,781 (hereinafter Lorenz); and claims 3, 5, 10, 12, 17, 18 and 19 were objected to as being dependent upon a rejected base claim, but were indicated to be allowable if rewritten in independent form to include all of the limitations of the base claim and any intervening claims. Applicants wish to express their appreciation to the Examiner for the indication of allowable subject matter. However, for the reasons that are set forth below, Applicants respectfully submit that all of claims 1-20 are allowable over the cited prior art of record.

Applicants believe that a brief review of Applicants' claimed subject matter may help to advance this case toward allowance. As is set forth in Applicants' background, various modern automotive ignition systems have provided protection from fault conditions that result in excessively long dwell times by a variety of techniques. However, as is also set forth in Applicants' background, current thermal shutdown techniques generate a spark event at an associated spark plug following the thermal shutdown, unless an external capacitor is utilized for control purposes. As is discussed, this is undesirable as a mistimed spark can cause damage to an engine if the spark leads or lags a desired spark timing point by an appreciable amount. The invention disclosed in Fukatsu is representative of such a system.

As is disclosed at Fukatsu paragraph 42, when a detected temperature reaches an abnormal level, a shutoff circuit 7 short-circuits a gate of an IGBT 2, thereby forcedly shutting off passage of current through the IGBT 2. As is specifically shown in Fukatsu

Applicants : Scott B. Kesler et al.  
Appln. No. : 10/779,906  
Page : 3

Fig. 4, a thermal shutoff circuit 7 includes a plurality of diodes 72 coupled to a non-inverting input of a comparator 73. When a thermal shutoff event is detected, comparator 73 provides a shutoff signal to a gate of a switch 74, which couples a gate of a switch 2 to ground. As is best shown in Fig. 1, a collector of the switch 2 is coupled to an inductive load 3. In sum, when the Fukatsu switching element experiences an excessive temperature, a gate of the switching element is coupled to ground.

In contrast, Applicants disclose and claim, in independent claims 1, 9 and 16, an interface/method/system that includes a drive circuit that responds to a shutdown signal by removing current sources and current sinks from a control terminal of the switching device, at which point leakage currents associated with the control switch of the switching device cause the switching device to reduce the drive current to an inductive load. Accordingly, Applicants submit that Fukatsu fails to teach or suggest an interface/method/system, as is respectively claimed in Applicants' independent claims 1, 9 and 16. As such, Applicants submit that independent claims 1, 9 and 16 are allowable over Fukatsu. Further, Applicants submit that dependent claims 2-8, 10-15 and 17-20 are allowable over the cited prior art of record, as none of the applied references, alone or in combination, teach or suggest Applicants' claimed subject matter, as set forth in independent claims 1, 9 and 16.

Applicants respectfully submit that this reply is fully responsive to the above-referenced Office Action.

Applicants : Scott B. Kesler et al.  
Appln. No. : 10/779,906  
Page : 4

### CONCLUSION

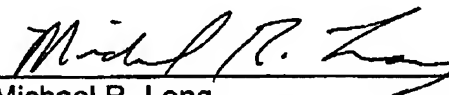
For at least all of the foregoing reasons, Applicants respectfully submit that claims 1-20 are allowable. If the Examiner has any questions or comments with respect to this reply, the Examiner is invited to contact the undersigned at (616) 949-9610.

Respectfully submitted,

SCOTT B. KESLER ET AL.

By: PRICE, HENEVELD, COOPER,  
DEWITT & LITTON, LLP

01-31-05  
Date

  
\_\_\_\_\_  
Michael R. Long  
Registration No. 42 808  
695 Kenmoor SE  
P.O. Box 2567  
Grand Rapids, Michigan 49501-2567  
616/949-9610

MRL/saw